CLAIMS:

1. A vector comprising:

(a) a DNA sequence derived from HHV-6 or HHV-7, said DNA sequence comprising an origin of replication, a cleavage and packaging signal and a promoter sequence which induces expression of at least one nucleic acid sequence product in a lymphocyte cell host;

wherein administration of said DNA vector to a mammal results in an immune response in said mammal.

2. The vector of Claim 1, wherein the vector is replication defective, enabling formation of concatamers of said vector.

3. The vector of any one of Claims 1-2, wherein said DNA sequence is amplicon-6.

4. The vector of any one of Claims 1-3, wherein said DNA sequence is Tamplicon-7.

5. The vector of any one of Claims 1-4, wherein said vector is not capable of self replication.

6. The vector of Claim 5, wherein the vector is used in combination with a helper virus.

7. The vector of Claim 6, wherein said helper virus is a lymphotropic virus.

8. The vector of Claim 7, wherein said lymphotropic virus is HHV-6A.

9. The vector of Claim 7, wherein said lymphotropic is HHV-7.

10. The vector of any one of Claims 1-9, wherein the vector is packaged in a virion particle.

11. The vector of any one of Claims 1-10, wherein, said immune response is elicited against an amino acid product encoded by the DNA sequence of Claim 1 or fragments thereof.

12. The vector of any one of Claims 1-11, comprising at least one foreign nucleic acid sequence.

13. The vector of Claim 12, wherein, wherein the immune response is elicited by cells responding to an amino acid product encoded by said foreign nucleic acid sequence.

14. The vector of any one of Claims 12-13, wherein at least part of the product expressed by the foreign nucleic acid sequence is targeted to the cell membrane.

15. The vector of any one of Claims 12-13, wherein at least part of the product expressed by the foreign nucleic is secreted outside of the cell.

16. The vector of Claim 12, wherein the foreign nucleic acid sequence is selected from sequences coding cellular GFP and B-gal markers, HSV-1 glycoprotein D (gD), gDsec, HIV-1 gp160, REV, tumor antigens, MUC1, Prostate Specific Antigen (PSA), Her-2 (neu) antigen, adjuvant genes, interleukines, cytokines and chemokines.

17. A method for eliciting an immune response in a mammal, said method comprising:

(a) providing a vector of any one of Claims 1-16; and

(b) introducing said vector into the body of said mammal;

wherein said introduction results in an immune response in said mammal.

18. The method of Claim 17, comprising:

(a) providing a helper virus; and

(b) introducing said helper virus into the body of said mammal.

19. The method of any one of Claims 17-18, wherein providing the helper virus is by providing a cell comprising a helper virus.

20. The method of any one of Claims 17-19, wherein the vector is the vector of any one of Claims 12-16.

21. A method for eliciting an immune response in a mammal, said method comprising:

(a) providing a vector of any one of Claims 1-16;

(b) introducing said vector into lymphotropic cells; and

(c) introducing said lymphotropic cells into said mammal;

such that said introduction results in an immune response in said mammal.

22. The method of Claim 21, wherein the vector is the vector of any one of Claims 12-16.

23. The method of Claim 22, wherein the immune response is against the protein product encoded by the foreign nucleic acid sequence.

24. The method of any one of Claims 21-23, wherein the lymphotropic cells are selected from dendritic cells (DC), T cells and B cells and any combination thereof.

25. The method of one of Claims 21-24, wherein the lymphotropic cells are compatible for transplantation in said mammal.

26. The method of Claim 25, wherein the lymphotropic cells are autologous cells derived from said mammal.

27. The method of any one of Claims 21-26, comprising:

(a) providing a helper virus; and

(b) introducing said vector into the body of said mammal.

28. The method of Claim 27, wherein providing the helper virus is by providing a cell comprising a helper virus.

29. Mammalian cells comprising a vector of any one of Claims 1-16.

30. The mammalian cells of Claim 29, comprising a helper virus.

31. The mammalian cells of any one of Claims 29-30, comprising lymphotropic cells selected from dendritic cells (DC), T cells and B cells and any combination thereof.

32. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and an effective amount of an active agent selected from:

(a) the DNA vector of any one of Claims 1-16; and

(b) of any one of Claims 29-31;

(c) the Concatameric vector of any one of Claims 53-54;

(d) the virion of Claim 66.

33. The pharmaceutical composition of Claim 32, for inducing an immune response in a mammal.

34. The pharmaceutical composition of any one of Claims 32-33, comprising an effective amount of a helper virus.

35. The pharmaceutical composition of any one of Claims 32-34, comprising an effective amount of mammalian cells comprising a helper virus.

36. The pharmaceutical composition of any one of Claims 32-35, wherein said helper virus is one of HHV-6A and HHV-7.

37. A method of producing mammalian cells capable of producing a product of a nucleic acid sequence of interest, comprising:

(a) providing a vector comprising a nucleic acid sequence of interest according to any one of Claims 12-16;

(b) providing lymphotropic cells that are compatible for transplantation in said mammal; and

(c) introducing said vector to said mammalian cells;

such that said mammalian cells become capable of producing a product of said nucleic acid sequence of interest.

38. The method of Claim 37, comprising:

(a) providing a helper virus; and

(b) introducing said helper virus to said mammalian cells.

39. The method of any one of Claims 37-38, comprising introducing additional mammalian cells to the mammalian cells of Claims 37-38.

40. The method of Claim 39, wherein the additional mammalian cells comprise a helper virus.

41. The method of any one of Claims 37-40, wherein the mammalian cells are lymphotropic cells.

42. The method of Claim 41, wherein the lymphotropic cells are selected from dendritic cells (DC), T cells and B cells and any combination thereof.

43. A method of producing desired protein comprising:

(a) providing a vector of any one of Claims 12-16, wherein the foreign nucleic acid sequence encodes a desired protein;

(b) providing mammalian cells;

(c) introducing said vector to said mammalian cells;

(d) providing culture conditions;

such that the mammalian cells produce said desired protein.

44. The method of Claim 43, wherein the desired protein is selected from cellular GFP and B-gal markers, HSV-1 glycoprotein D (gD), gDsec, HIV-1 gp160, REV, tumor antigens, MUC1, Prostate Specific Antigen (PSA), Her-2 (neu) antigen, adjuvant genes, interleukines, cytokines and chemokines.

45. The method of any one of Claims 43-44, wherein said mammalian cells are lymphotropic cells.

46. The method of Claim 45, wherein the lymphotropic cells are selected from dendritic cells (DC), T cells and B cells and any combination thereof.

47. The method of any one of Claims 42-46, wherein the culture conditions comprise introducing additional mammalian cells.

48. The method of Claim 47, wherein the additional mammalian cells comprise a helper virus.

49. Use of a vector of any one of Claims 1-16, for eliciting an immune response in a mammal.

50. Use of a vector of any one of Claims 1-16, for the preparation of a pharmaceutical composition for eliciting an immune response in a mammal.

51. Use of a mammalian cell of any one of Claims 29-32, for eliciting an immune response in a mammal.

52. Use of a mammalian cell of any one of Claims 29-32, for the preparation of a pharmaceutical composition for eliciting an immune response in a mammal.

53. A Concatameric vector comprising repeats of a DNA sequence derived from HHV-6 or HHV-7, said DNA sequence comprising an origin of replication, a cleavage and packaging signal and a promoter sequence which induces

expression of at least one nucleic acid sequence product in a lymphocyte cell host, wherein administration of said Concatameric vector to a mammal results in an immune response in said mammal.

54. The Concatameric vector of any Claim 53, comprising at least one foreign nucleic acid sequence.

55. Use of a Concatameric vector of any one of Claims 53-54, for the preparation of a pharmaceutical composition for eliciting an immune response in a mammal.

56. Use of a Concatameric vector of any one of Claims 53-54, for eliciting an immune response in a mammal.

57. A method of eliciting an immune response in a mammal comprising administration of a Concatameric vector of any one of Claims 53-54 to the mammal.

58. A method of producing concatameric DNA vectors, comprising:

(a) providing replication defective vector of any one of Claims 2-16;

(b) providing mammalian cells; and

(c) introducing said replication defective vector to said mammalian cells;

(d) providing culture conditions;

such that the mammalian cells produce concatameric DNA vectors.

59. The method of Claim 58, wherein the vector is the vector of any one of Claims 12-16.

60. The method of any one of Claims 58-59, wherein at least a portion of the mammalian cells comprises a helper virus.

61. A method of producing virions comprising a vector of any one of Claims 1-16, said method comprising:

(a) providing a vector of any one of Claims 1-16;

(b) providing mammalian cells;

(c) introducing said vector to said mammalian cells;

(d) providing culture conditions;

such that virions are produced by said mammalian cells.

62. The method of Claim 61, wherein the vector is the vector of any one of Claims 12-16.

63. The method of any one of Claims 61-62, wherein at least a portion of the mammalian cells comprises a helper virus.

64. A method for eliciting an immune response in a mammal, said method comprising:

(a) providing a Concatameric vector of any one of Claims 53-54; and introducing said Concatameric vector into the body of said mammal;

wherein said introduction results in an immune response in said mammal.

65. The method of Claim 64, comprising:

(a) providing a helper virus; and

(b) introducing said helper virus into the body of said mammal.

66. A virion comprising a vector of any one of Claims 1-16.

67. A method for eliciting an immune response in a mammal, said method comprising:

(a) providing a virion of Claim 66; and

(b) introducing said virion into the body of said mammal;

wherein said introduction results in an immune response in said mammal.

68. Use of a virion of Claim 66 for the preparation of a pharmaceutical composition for eliciting an immune response in a mammal.

69. Use of a virion of Claim 66 for eliciting an immune response in a mammal.

70. The method of any one of Claims 21-28, wherein the lymphotropic cells are lymphotropic cells taken from the mammal to which they are to be introduced.

71. The pharmaceutical composition of any one of Claims 32-36, wherein the mammalian cells are mammalian cells derived from the mammal to which they are intended to be introduced.